

RV Brooks McCall Data Summary Cruise 6/18/2010

Review Date 6/19/10

Summary:

This sampling report presents data collected from the RV Brooks McCall for the period of 6/18/2010. The RV Ocean Veritas will alternate with the Brooks McCall in the collection of subsurface data associated with the Deepwater Horizon oil spill. Stations occupied during this reporting period include BM91, BM92, BM93, and BM94. Stations BM91-BM93 were located 5 km NE of the well head, while Station BM94 was located 7 km NE of the well head. The sampling strategy for the day aimed to compliment sampling activities undertaken by the *Cape Hatteras*, sampling the area stretching between the well head and the location of the *Cape Hatteras*.

The CTD array data showed no significant fluorescence signals at any of the four stations sampled on 6/18/10.

A total of 7,642 gallons of subsurface dispersant was used on 6/18/2010. The average injection rate was not provided.

The Brooks McCall collected sixteen (16) Rototox samples, including duplicates, from Stations BM91-BM94. Bioassays were also conducted for Stations BM87-BM94, and data is expected to become available during the 6/19/10 operational period. The vessel also collected sixty-eight (68) samples for TPH and sixty-eight (68) samples for VOC analysis.

LISST and CTD Fluorometer:

Water samples were collected at all 4 stations. Stations BM91-BM93 were located 5 km NE of the well head in an arc trajectory, while Station BM94 was located further N of the previous three stations 7 km NE of the well head. The *in situ* CTD fluorometer recorded no significant fluorescence at any of the four sampled stations.

The LISST data collected at the four sampled stations is considered to reflect biological background readings, and not small dispersed oil particulates. Sixty - eight (68) LISST samples were collected from all four sample locations.

Dissolved Oxygen:

The CTD instrument includes a dissolved oxygen probe. The Brooks McCall typically reports D.O. data in mg/l, while the Ocean Veritas reports D.O. data in

ml/l. Despite the lack of fluorescence, anomalous dips in dissolved oxygen were observed at all four stations at varying depths. Station BM91 showed a barely visible dip at 1000m by about 0.5 mg/l below the expected natural background for that depth. Station BM92 showed a dip of 0.5 mg/l at 950m, and of about 0.65 mg/l below expected background between 1050-1100m. Station BM93 also showed distinct decrease in D.O. levels at two depths: a decrease by 0.5mg/l between 850-900m, and a dip of 0.75 mg/l between 1100-1130m. Station BM94 showed a decrease in D.O. by about 0.5mg/l between 990-1050m. The status report from the Brooks McCall for operational period 6/18/10 surmised that the slight drops in D.O. were at depths where the plume has been encountered previously; and that the signal in the DO may reflect the biological response from oil-degrading bacteria in the absence of a concentrated oil plume being present.

Dissolved oxygen values collected by the use of the Extech probe at all four stations reflected a generally higher scale. Station BM91 reported D.O. readings between 5.37-7.46mg/l; Station BM92 between 6.00-8.08 mg/l; Station BM93 between 6.05-7.83 mg/l; and Station BM94 between 6.74-7.64mg/l.

Toxicity Testing (Rototox Assay) (data collected from 6/18)

The Brooks McCall collected eight (16) Rototox samples, including duplicates, from Stations BM91-BM94. Samples for BM91 were collected at surface, 550m, 999m, and 1050m. Station BM92 samples were collected at surface, 949m, 1094m, and 1361m. Samples from station BM93 were collected at surface, 855m, 1124m, and 1387m. Station BM94 samples were collected from surface, 874m, 1024m, and 1152m.

Results for Rototox samples collected at Stations BM87-BM90 were delayed due to test supply shortage, and will be included in the daily summary for the 6/19/10 operational period. Tests for samples collected from Stations BM91-BM94 were set on 6/18/10 and are expected to be available for the 6/19/10 reporting period.

Chemical Analyses (TPH and VOCs) (data collected from 6/18)

Sixty-eight (68) samples were collected for TPH analysis and sixty-eight (68) samples were collected for VOC analysis. No data were provided for review at this time due to laboratory lag time.

Problems/Operational Issues

Proposed sampling 5km N and NW of the Discovery Enterprise was abandoned due to high VOC readings at the north station, and heavy vessel traffic and surface oiling in the north-northwest quadrant. This prompted the Brooks McCall to adjust the sampling strategy for the day to compliment data gathered by the Cape Hatteras N/NE of the well head.

